

## **REMARKS/ARGUMENTS**

### **General:**

Claims 1-23 are pending in the application. Claims 1-23 are rejected. Claims 1, 10, and 11 are amended as discussed below.

The cross-reference to related applications is updated to provide a complete list of USPTO application numbers, which were not available when the application was filed.

No new matter has been added by this amendment.

### **Specification:**

The Office requested a more descriptive title. The title has been amended.

### **Claim Objection**

The Office objected that claims 17 and 18 appeared to be substantial duplicates. The objection is traversed. Claim 17 recites transmitting the control packet at the **beginning** of a clock cycle. Claim 18 recites transmitting the control packet at the **end** of a clock cycle. The control packet is of non-zero duration, and so must occupy a time interval of non-zero length. The time interval recited in claim 17 immediately follows, but is not identical with, the time interval recited in claim 18.

**Claim Rejection - 35 USC § 101**

Claims 10 is rejected under 35 USC § 101 as directed to non-statutory subject matter. Claim 10 is now amended to use the standard *Beauregard* language “computer readable storage medium” and is believed now to be proper. A clerical error in claim 10 has also been corrected.

**Claim Rejections - 35 USC § 102**

Claims 1-23 (of which claims 1, 10, 11, 19, and 22 are independent) are rejected as being anticipated by U.S. Patent No. 7,159,137 (Nemawarkar). The rejection is traversed in view of the claims as now presented.

Nemawarkar does not show or suggest sending a control packet from a serializer (or other transmitting unit) to a deserializer indicating that (as a result of the irregular arrival of data packets) there is no data ready to send, as claimed.

Nemawarkar shows a system for managing skew between data lanes in communication links. The present claims are directed to the totally different question of managing timing gaps in a serdes link resulting from the uncertain arrival time of data packets at the serializer.

Regarding claim 1, the Office asserts that the “abstract and summary of the invention” of Nemawarkar teaches a method to process gaps in data communications, but no such teaching is found. (Since Nemawarkar’s Summary of the Invention” is more than five columns long, the Office is respectfully reminded that under 37 CFR § 1.104(c)(2) “the particular part relied on must be designated as nearly as practical.”) The Office asserts that Nemawarkar teaches all the

steps of claim 1, citing to “figures 10-11s<sup>1</sup>”; and column 18 line 4 to column 21 line 19” but does not designate where any step of the claim is taught, and no such teaching is found. Nemawarkar describes various control signals sent from the serializer to the deserializer, but none that could be processed by the deserializer to identify a data communication gap. Indeed, the only mention of “gaps” that is found in Nemawarkar, at col. 21, line 14, relates to a different sort of gap. The *deserializer* monitors for *gaps in the sequence identifiers*, that is to say, for dropped packets, not for gaps in transmission. Even then, no control data packet is apparently generated. It appears from the discussion of “Retry Upon Error Detection” at col. 29, lines 23-67 that the dropped packet is signaled by *not* sending an ACK packet.

Independent claim 1 has been amended to point out more distinctly the novel features of the claimed system, by adding to the first body clause the feature, previously recited as “to process gaps” in the preamble, that the gap being processed is a timing gap in the data available at the transmitting end of the link, not a sequence gap at the receiving end resulting from a dropped packet. Textual support for the amendment is found in paragraphs [0050] to [0055], especially paragraph [0053], where the serializer sends a control value “if it does not have the next small packet for transmitting.” There is no disclosure or suggestion in Nemawarkar of the claimed feature of the serializer generating and sending, and the deserializer processing, a control packet when there is a gap in the stream of packets. Thus, Nemawarkar neither teaches nor fairly suggests all the features of claim 1, and claim 1 is believed to be not only new but also non-obvious over Nemawarkar.

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<sup>1</sup> It is assumed that Figures 10, 11A, and 11B were intended, since those are the Figures primarily referenced by the cited passage of text.

The Office rejects claims 10 and 11 without separate analysis as being merely the *Beauregard* and apparatus counterparts of claim 1. Claims 10 and 11 are amended similarly to claim 1 and are deemed now to be allowable over Nemawarkar for at least the same reasons as claim 1.

The Office rejects claims 19 and 22 without separate analysis on the ground that they “do not teach or define any new limitations” over claims 1-18. In fact, claims 19 and 22 already recite explicitly the novel feature that the serializer detects a gap in incoming data and generates the control packet, and are deemed to be allowable over Nemawarkar for at least the same reasons discussed above in respect of claim 1.

Claims 2-9, 12-18, 20-21, and 23 variously depend from claims 1, 11, 19, and 22 and, without prejudice to their individual merits, are deemed to be novel and non-obvious over for at least the same reasons as their respective base claims.

In addition, claim 4 (from which claims 5-9 further depend) explicitly recites generating a packet of data having data representative of communication gaps, and claim 7 recites the serializer encoding the small packet with a selected value indicating the presence of a gap. The lengthy passages from Nemawarkar cited by the Office have been reviewed, but no description relevant to these features is found. As noted above, the only gaps that Nemawarkar even mentions are sequence gaps resulting from dropped packets, which would have to be signaled in the opposite direction. For these reasons also, at least claims 4-9, together with claims 13-18, which were rejected without separate analysis, are believed to be novel and non-obvious over Nemawarkar.


**Conclusion**

In view of the foregoing amendment and remarks, Applicants respectfully submit that the present application, including claims 1-23, is in condition for allowance and a notice of allowance is respectfully requested.

If the Examiner believes that any additional minor formal matters need to be addressed in order to place this application in condition for allowance, or that a telephone interview will help to materially advance the prosecution of this application, the Examiner is invited to contact the undersigned by telephone at the Examiner's convenience.

Respectfully submitted,

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